

ENVIRONMENTAL STEWARDSHIP



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Policy Recommendation:

1. EMPOWER PEOPLE, NOT POLITICIANS, WITH CONSERVATION TECHNOLOGY

For those who believe government environmental agencies put the public ahead of politics, the Flint, Michigan, water crisis provides a cautionary tale.

At first, regional EPA officials denied the drinking water in Flint was contaminated. Then they debated whether to use agency resources to buy

water filters for the people in the community. Concerned the expenditure would set a precedent for other communities with water quality problems, agency officials ultimately decided against it. As one EPA official wrote, “I don’t know if Flint is the kind of community we want to go out on a limb for.”¹

For more than 50 years, the focus of environmental policy has been on expanding government regulation and increasing the number of enforcement agencies. In a world where smartphones and the internet connect everyone, environmental policy is still stuck in the regulatory model of the 1970s. When facing environmental problems, the immediate impulse is to use the same approach used in past decades when Congress created the Environmental Protection Agency (EPA) and passed the Clean Air Act and the Clean Water Act.

When facing large smokestacks and industrial outfalls into lakes, government agencies were the only real option to solve these pollution problems. They had good success. In the United States air and water are cleaner today than they have been for a century.

Policies that worked in the 1970s are not working today. In Washington state, government agencies have repeatedly failed to make progress on key environmental problems like maintaining healthy forests, reducing risk from CO₂ emissions, and helping salmon populations to recover.

Those failures stem from several weaknesses of politically driven approaches. Politicians are rarely held accountable for the failure of their environmental policies. Instead they choose policies that make themselves (and their supporters) feel good even if their ideas don’t work. Government approaches are often rigid and inflexible, making it difficult to adapt to new challenges.

Connecting people directly to environmental problems using small-scale technologies can overcome these limitations. People now have more information about resource use, greater opportunities to help the environment, and more ability to collaborate with others than ever before.

Using personal incentives and knowledge, society can address the types of problems politicians and government agencies have failed to solve. Rather than immediately turning to politicians, empowering people with technology offers a better way to solve many of the most challenging environmental problems.

Rewarding people for environmental success

Soon after he was elected, Governor Inslee told Lean Management expert John Bernard, “Holding ourselves accountable for results to the citizens of Washington isn’t politically expedient, but it clearly is the right thing to do.”² Despite his bravado, the record of the Inslee Administration has been to avoid accountability and to hide repeated failures to meet promised environmental goals.

Results Washington, the agency Governor Inslee had created to provide the accountability he had promised, removed all written goals from its web page in 2019, just before the governor announced his national presidential campaign. Four years later, the “accountability” agency had still not posted new environmental progress metrics to replace the old ones.

Connecting people to environmental results creates direct accountability in a way that political systems simply do not. Energy conservation offers one clear example of this.

Prices send strong signals about the value of resources, providing incentives for consumers to conserve while saving money. Homeowners, however, have been protected from price signals because they did not have the ability to adjust rapidly when prices increased.

That has changed, and smart thermostats and home energy monitors now provide homeowners a way to save money while reducing power demand during peak hours, when utilities pay the most for electricity. Users of Nest and Ecobee smart thermostats can, in some areas, participate in programs that automatically adjust the thermostat to save energy during critical times of the day. Combining technology with personal incentives is already showing positive results.

In the U.K. and Texas, Octopus Energy provides its customers with real-time pricing and the technology tools to adjust their energy use based on transparent prices. As wholesale prices increase in the evening or decline at night, those price changes are passed on to customers. When there is a surplus of wind energy, prices can even go negative – literally paying people to use electricity.

Giving people options helps homeowners cut their energy costs. A study commissioned by Octopus found that:

“The first results from our Agile Octopus half-hourly time of use tariff shows consumers shifted electricity consumption out of peak periods by 28 percent.”³

The result, they report, was that the average consumer would save about forty-five British pounds annually compared to a fixed-rate plan from Octopus.

Incentives work better than shaming

Research shows connecting people with financial incentives to save works better than messages that try to shame people into conserving. One study tested two ways to get consumers to reduce electricity use during peak hours. For the moral suasion group, researchers sent a message saying that conservation “will be required for the society in ‘critical peak-demand hours.’”⁴ The group receiving the economic incentive received a message reading, “Notice of Demand Response: In the following critical peak-demand hours, you will be charged a very high electricity price...”

The results were clear. The researchers found that “the level of reduction is much larger for the economic incentive treatment.” The incentives were so effective that they even worked outside the period of peak demand. Researchers reported, “These results imply that the economic incentives in our experiment motivated customers to lower their usage in both the non-treatment hours and the treatment hours.”⁵

Once consumers felt the cost of their energy use, they found ways to conserve and made conservation a daily habit. By way of contrast, the moral suasion approach had only a limited effect. The results from the study found that “...moral suasion effect was statistically significant in the first cycle, but became insignificant in the remaining cycles for the summer.”⁶ People simply became inured to the guilt and reverted to their old behavior. As public messaging guilt only goes so far.

Politicians and bureaucrats prefer to be in charge

Politicians and officials at state agencies prefer a centralized, top-down approach. Devolving control to consumers takes power away from government agencies, appointed board members, and legislators who do not trust the public to make what they consider the right decisions.

Keeping politicians and bureaucrats in charge means they can dictate how energy is generated, what the costs are, and who benefits while maintaining a lack of transparency that prevents accountability.

After more than a century of government-dictated prices, some in the public will certainly be skeptical about a consumer-led system that requires more attention and seems less certain. Ultimately, however, a policy of giving more transparency and control to consumers is more effective and respectful of individuals and families, and is better for the environment.

Finding solutions where government approaches have failed

Smartphones and the internet also connect people, allowing them to aggregate information and social power to address environmental problems. An app called eBird helped create habitat for migratory shorebirds simply by collecting data from birdwatchers.

Created by Cornell University, eBird allows birdwatchers to enter data about when and where they sight particular wild birds, helping birdwatchers keep track of their lifetime birdwatching list. That data is used by Cornell University to understand the movement of birds and identify critical habitat.

Joining with The Nature Conservancy (TNC) in the Central Valley of California, the eBird team used the data by the app to identify key parcels of land to protect, assisting migratory shorebirds as they move along the Pacific Flyway.

Using the existing data from the eBird checklists, TNC was able to identify the landing areas birds use most as they migrate. The data were specific enough, down to about a half-mile of resolution, that TNC could identify specific farms and rice paddies in the area that would be most valuable to wild birds during migratory season.

Once they had the information, TNC offered to pay farmers to create “pop-up habitats” for a few months a year. TNC asked farmers to flood their fields with a few inches of water and let fields remain idle during a time when they might otherwise be preparing for the next growing season. TNC ran a reverse auction, asking farmers how much they would like to be paid to participate in the program. Farmers named their price, and TNC rented the land to create the habitat.

TNC's lead scientist for its California Migratory Bird Program reported:

“It's been a pretty astonishing success,” with 10,000 acres of additional wetland created, and modeling showed that “...more than 180,000 waterbirds comprising more than 50 different species used the temporary wetlands – 30 times more than were counted on the dry fields.”⁷

By renting the land for a few weeks or months, the cost is dramatically lower than having to purchase the land outright. Additionally, turning productive farmland into permanent conservation land can be politically unpopular, as the remaining farmers have more difficulty continuing to work in a community that becomes more detached from a farming lifestyle. Working with the farmers, on the other hand, engages them in conservation, providing financial incentives to compensate them for the additional risk and cost of changing their annual farming practices.

Smartphones reduce what Nobel Prizewinning economic Ronald Coase called “transaction costs,” the cost of sharing information and collaborating. Apps like eBird use smartphones to radically reduce the cost of information, creating new opportunities to respond to environmental and resource problems. For distributed environmental problems where big government solutions don't work, this kind of information aggregation is a critical part of identifying problems and opportunities in ways that have not been available before.

Innovation is more nimble than bureaucratic approaches

“Environmental problems are getting larger, and the only thing that can keep up with that is technology.”⁸ Those are the words of Michelle Lancaster, who worked with Microsoft's AI for Earth program. Technology allows governments or groups of individuals to use information to address challenging environmental problems.

Engaging individuals with technology can also help government efforts become more effective. One example is King County's noxious weed app, which allows users to photograph, identify, and report environmentally harmful weeds.⁹ Photographs can be assessed by King County staff without having to make a site visit.

Previously, users had to submit a written report with vague descriptions of the location and the plant. The new app saves time and money by improving the quality of information shared by users.

The rapid improvements in Artificial Intelligence (AI) also add to the ability to use wildlife cameras to track species and to interpret bird and animal calls to understand the range of they travel. It is even used to identify where lead water pipes need to be replaced in residential communities.¹⁰

Conclusion

Innovation empowers people with the incentive to save environmental resources. Government regulators can give general price signals but they cannot come close to matching this level of social empowerment. Smartphones can also bring people together, aggregating and interpreting information to reduce the impact of power outages and coordinate efforts to create new wildlife habitats.

Rather than turning to expanded government programs that have been unable to solve many of the environmental problems we face today, policymakers, innovators and members of the general public should use the power we can all now hold in the palm of our hand.

Policy Recommendation:

2. DESTROYING THE SNAKE RIVER DAMS WOULD BE BAD FOR THE ECONOMY AND THE ENVIRONMENT

In 1999, environmental activists paid for a full-page ad in *The New York Times* claiming that unless the four Lower Snake River Dams were removed “wild Snake River spring chinook salmon, once the largest run of its kind in the world, will be extinct by 2017.”

Instead, Chinook populations at Lower Granite Dam – the farthest upstream of the four dams – have been higher during the last two decades than during the 1990s. Since that ad ran in 1999, adult Chinook returns have averaged more than five times as many fish per year than in the decade before it ran.

Nearly a quarter of a century later, some environmental activists are still calling for the destruction of the dams. Focus on the dams is a

dangerous distraction from the real work that is needed to recover salmon populations across the Northwest. Diverting scarce funds needed for salmon habitat in Puget Sound to the Snake River would do little to help salmon, but it would destroy opportunities to help where it is most important while needlessly increasing the cost of electricity in Washington state.

The proposal to spend \$35 billion – or more – to destroy the four Lower Snake River dams is counterproductive, not just for the climate, for energy reliability, and for the economy, but also for salmon by misallocating resources that could do so much good across the region.

Predictions of extinction have been repeatedly wrong

Across the Pacific Northwest, the pace of salmon recovery has been slow, leading to frustration and encouraging politicians and some activists to look for a silver bullet solution.

For example, one metric used to assess the success of recovery efforts is the smolt-to-adult return ratio, known as SAR. This is the ratio of baby salmon that head downstream to those that return upstream four years later. The higher the ratio, the more likely a salmon stock is to become self-sufficient and to increase in population.

The data show that SARs on the Snake River are similar to returns in other rivers, those with and without dams. A peer-reviewed study concluded:

“Within the Columbia River, the SARs of Snake River populations, often singled out as exemplars of poor survival, are unexceptional and in fact higher than estimates reported from many other regions of the west coast lacking dams.”¹¹

An Independent Scientific Advisory Board (ISAB) was convened and agreed with the study’s assessment of Snake River SARs. The Board members wrote:

“The ISAB concurs with the general conclusion...that current SARs for Chinook populations from the Columbia Basin and in other systems are generally low, with recent values below 2% (after accounting for fishery interceptions) being common.”¹²

Despite the regional challenges, some people fixate on the Snake River, claiming salmon are near extinction. Their predictions have been

consistently wrong. For example, in 2021 dam opponents wrote in *The Spokesman-Review*:

“Imagine Snake River without any salmon. That’s not hyperbole.”¹³

Rather than declining, as these activists predicted, Snake River salmon populations increased significantly the following year. Wild Chinook returns more than doubled the following year. For all Chinook, wild and hatchery, 2022 was the third year in a row of fish population increases and the fifth-highest population since 2000.

Scientific assessments show dam removal is not necessary

The justification for destroying the dams is the claim that doing so would increase salmon runs in the Snake River. In its poll asking people about the four dams, Save Our Wild Salmon falsely claimed, “Removing four dams on the Lower Snake River would restore wild salmon.” Science and data, however, demonstrate that destroying the dams would do little to recover salmon in the Snake.

The most comprehensive study of the impact of the dams ever completed, the Columbia River System Operations EIS, concluded the dams should not be removed. That study found that keeping the dams would “meet the Improve Juvenile Salmon, Improve Adult Salmon, and Improve Lamprey objectives.” According to the CSS model, Snake River Chinook and steelhead populations will increase with the dams in place.¹⁴

In its Snake River recovery plan for Chinook and Steelhead, NOAA Fisheries noted that the dams are “very close to achieving, or have already achieved, the juvenile dam passage survival objective of 96 percent for yearling Chinook salmon and steelhead migrants.”¹⁵ This is one reason Chinook adult populations on the Snake River are much higher today than during the 1990s. Even at best, destroying the dams would increase the existing survival rate by a small percentage.

Given the small room for improvement, the potential population gains from destroying the dams are limited or non-existent. Dr. Peter Kareiva, who analyzed the impact of the Snake River dams for NOAA Fisheries in the early 2000s, argued:

“...it is not certain that dams now cause higher mortality than would arise in a free-flowing river.” He concluded that, “it has

become clear that salmon conservation is being used as a ‘means to an end’ (dam removal) as opposed to an ‘end’ of its own accord.”¹⁶

The science simply doesn’t support the primary argument activists make for destroying the dams.

Destroying dams won’t save Southern Resident Orca

Some claim destroying the dams would help the Southern Resident Killer Whales in Puget Sound, which is a listed endangered species. The Southern Residents rely almost entirely on Chinook salmon for their diet and low fish populations across the region are the major cause of the orca’s decline. Some have argued that destroying the dams would increase the number of Chinook available to feed the Southern Resident whales.

Scientists from NOAA Fisheries have stated clearly that destroying the dams would not have a meaningful impact on salmon available to the Southern Residents.

In a 2016 NOAA fact sheet called, “Southern Resident Killer Whales and Snake River Dams,” federal agency staff wrote:

“The relative size of the Snake River salmon stocks compared to others on the West Coast means that increases in their [Snake River salmon] numbers, whether from breaching dams or otherwise, would result in only a marginal change in the total salmon available to the killer whale.”¹⁷

Additionally, NOAA Fisheries and the Washington State Department of Fish and Wildlife prioritized the most important watersheds for Puget Sound orca, giving the Snake River a low ranking of ninth overall.¹⁸

NOAA’s fact sheet went on to say:

“The best option for long-term recovery of both salmon and whales is restoring habitat across a diversity of west coast rivers.”

Again, focusing so much attention and resources on the Snake River distracts from salmon recovery efforts across the region that are more critical for both orca and salmon populations.

The high cost of replacing the clean electricity

The four Lower Snake River Dams (LSR) provide between seven and 11% of Washington's electricity.¹⁹ Replacing that amount of clean zero-carbon energy would be expensive and would greatly increase harm to the environment.

Many claims about replacing the electricity from the Snake River dams would not fully replace the energy supplied by the dams and do not account for the unreliability of wind and solar power. Some proposals, like the 2018 NW Energy Coalition study, assumed natural gas generation would be necessary to replace some of the power to provide grid stability.²⁰ Its report found destroying the dams would increase CO2 emissions by more than 320,000 metric tons annually – about the amount of CO2 emitted by 70,000 cars in a year – even though wind and solar sources would not replace all the lost electricity.

Washington Policy Center joined with the Center for the American Experiment to estimate the cost of replacing all of the electricity from the four Lower Snake River dams, including battery storage, to provide the same level of reliability as the dams do.²¹

The rigorous analysis found that the total cost of replacing the generation of the LSR dams with 100 percent wind and solar generation, plus battery storage, would be \$34.3 billion. This finding is based on 2021 LSR dam generation and real-world wind and solar capacity factors for the region. These cost estimates assume a declining cost of renewable power and battery storage using optimistic projected future costs from the moderate scenario in the National Renewable Energy Laboratory (NREL) Annual Technology Baseline.

Put simply, removing the dams would significantly damage clean electricity generation in Washington and the Northwest, would drive prices up for consumers, and would actually increase CO2 emissions.

Destroying the dams is a dangerous distraction

Lawmakers should not allow frustration at the slow pace of recovery across the region to cause them to look for “silver bullets,” like dam destruction, that simply do not exist. Scientific prioritization must continue to guide environmental policy about where and how to allocate limited state and

federal dollars. It took decades for salmon populations to decline to this point and it will take time for them to recover.

Federal government officials should continue to support the work of the Pacific Northwest National Laboratory in finding ways to reduce the impact of the dams, in particular by improving our scientific understanding of salmon runs more generally. Technology has already been very effective at reducing fish mortality at the dams.

Finally, both the state and federal governments should increase funding for science-based salmon recovery grants. Rather than offering money to politically targeted projects, it should be put into grant programs using politically neutral, science-based metrics.

Conclusion

Salmon populations along the Snake River are higher today than two decades ago. Despite that, some activists and politicians continue to cling to decades-old arguments, ignoring the latest science and pushing policies that would increase air pollution, raise electricity rates, and divert money from effective salmon recovery efforts.

To help salmon and orca, Washington policymakers should put funding where it will be most effective. Preserving the Snake River Dams is not just good for our economy, farmers, and energy – it is good for the environment.

Policy Recommendation:

3. HOW TO IMPROVE SALMON RECOVERY IN WASHINGTON STATE

The need to increase the population of salmon in Washington state brings together a wide range of people, including those who care about preserving an iconic Northwest species, commercial and sport fishers, tribal members who rely on salmon for economic and cultural benefits and have guaranteed treaty rights, and the public who care about all of these qualities.

Despite that broad agreement, progress on increasing the population of Chinook and other salmon species is frustratingly rare. The slow rate of

progress is creating tension among groups who have turned to fighting for their share of a shrinking fish population.

There is an opportunity to break this cycle of frustration and recrimination. Washington state has the resources to take critical steps to change the course of salmon recovery for the better.

Increased funding will only be effective if it is accompanied by a commitment to reversing the trend toward politicizing spending. Instead, it uses a science-based prioritization process that increases funding for science and monitoring and creates accountability for outcomes by putting those closest to on-the-ground recovery projects in the lead.

This combination of efforts will help halt the slow decline of salmon across the Northwest and will deliver real benefits for Washington's economy, environment, and culture.

Chinook salmon populations are not recovering

Across the state, salmon populations continue to struggle, with few watersheds making progress. The State of Salmon in Watersheds report notes:

“No salmon species have been removed from the federal Endangered Species Act list in Washington and most of the species on the list are in crisis or not keeping pace with recovery goals.”²²

The problems are not located in just one part of the state.

Chinook populations have been particularly hard hit. In Puget Sound, between 2004 through 2019, there were declines in the number of spawning salmon in 16 of the 22 Chinook populations. As a result, the state badly missed its 2020 goal for Puget Sound to show improvements in wild Chinook populations in each of the five biogeographical regions. Similar results are reflected across the Northwest.

A variety of factors play a role in harming salmon – a lack of functioning estuaries, predation, warm water, rain runoff that carries toxins into the water, few floodplains and other environmental factors. To reverse our failure to improve salmon populations in Puget Sound and elsewhere requires a more sophisticated approach.

Some of the problems are also politically difficult to face.

Earlier this year, the Washington State Academy of Sciences released a study on the impact of large populations of seals and sea lions (known as pinnipeds) on salmon. Its research concluded that predation by pinnipeds is “a primary driver of increasing mortality rates” among Puget Sound salmon.

The complex web of factors also makes it difficult to know whether officials are prioritizing the right problems and whether restoration projects are actually working.

Variable ocean conditions mean it can take a long time to discern results. It can take years for growing trees to provide adequate shade for a stream or for wood added to a stream to improve fish habitat conditions. A poor population response could mean that habitat projects did not have the desired effect, or it could mean that ocean conditions or other conflating factors masked some smaller underlying improvement.

A study by the Puget Sound Partnership’s Salmon Science Advisory Group that examined the factors limiting salmon recovery noted, “Projects can take decades to have the desired effect on habitat functions,” and that assumes monitoring is adequate to accurately detect results. The study reported, “Our ability to fully assess the effectiveness of restoration actions would be enhanced by continuing to expand the fish monitoring effort in the region.”²³

There is no “silver bullet”

The slow pace of recovery combined with uncertainty is leading some to look for a high-profile, silver bullet, a single dramatic action – like destroying the four Lower Snake River dams – that they think would kickstart recovery of salmon populations.

The fight over the Snake River dams is the highest profile and most expensive example of silver-bullet thinking, but it is not the only one. Removing seals and sea lions, banning tribal nets, or stopping fishing altogether, and protecting riparian areas have all been identified as the supposed “key” to salmon recovery by various interested parties. Where there is complexity, people can fall into a process known as “satisficing,” in which they “engage in sub-optimal decision-making strategies to conserve cognitive effort.” When frustration mounts, simple solutions become more attractive.

The reality is that salmon recovery is complex. It took many decades for salmon populations to get to their current low point, and it will take decades for them to recover. Improving habitat and reducing predation take time to show results. There are no quick fixes and the search for them distracts from the critical, science-based, sustained effort that is necessary.

Political agendas are undermining science-based prioritization

Inadequate funding is also creating frustration, leaving many problems unaddressed or under-addressed. This has caused salmon advocates to compete for resources, trying to carve the budget pie to suit the projects about which they are most concerned.

For example, the state is under a federal court order to fix culverts and other barriers to habitat. The recent legislative budget added \$50 million to improve conditions along streams to reduce temperatures and habitat. Opening upstream habitats and reducing stream temperatures can be worthwhile. However, these types of projects may not be the best use of salmon-recovery funding and may not address key barriers in individual watersheds.

Increasing funding for targeted programs also comes at the cost of other salmon recovery efforts. The Salmon Recovery Funding Board was the first state-funded salmon program. It receives proposals from local organizations and allocates grants using a competitive, science-based ranking. This year, the Legislature cut its budget by a third compared to the previous biennium, even as the state's total salmon recovery budget increased slightly.

Now, salmon are also competing for attention with identity politics. Under the new HEAL Act, state environmental agencies are required to create rules that skew environmental spending using the state's controversial Environmental Health Disparities map.

A look at the projects that qualified for funding in the existing science-based Puget Sound Acquisition and Restoration Fund (PSAR) shows the gap between salmon-recovery priorities and the political rhetoric of the HEAL Act. Using the Health Disparities map, the salmon-recovery projects prioritized by scientific metrics are in areas with an average score of 1.55 out of 10, near the bottom of the "environmental justice" scale. Applying the HEAL Act would almost certainly move projects away from where the existing science-based metrics would recommend.

Putting science, ongoing learning, and accountability at the center of salmon recovery

Sound salmon policy is a mix of science, effective use of resources, economics, and a determined but objective temperament.

Public officials should clear away the political drama and other issues that distract them from the important work of addressing the many obstacles to salmon recovery. Now is the time to redouble the focus on science and the process of ongoing learning.

There are four key ideas that would get salmon recovery efforts back on track.

1. A salmon science surge

In many places across the state, managers of habitat science have little information about total salmon returns. Without basic information, it is virtually impossible for them to assess accurately which recovery projects are working and which are not.

A study on salmon recovery in Puget Sound noted:

“The clear weakness in ongoing monitoring work is the inability of monitoring to link restoration, changes in habitat conditions, and fish response at large scales (sub-basin and larger). All these factors are playing a role in limiting fish response to restoration actions and all should be considered in attempts to make habitat restoration more effective.”²⁴

The state should increase funding for science and monitoring.

2. Salmon funding should be science-based

The Legislature should reverse the trend of funding based on political considerations rather than science-based grants. Those programs have been effective at targeting key barriers to salmon recovery. For example, a recent assessment of PSAR projects over 15 years found:

“The PSAR Large Capital Program review process effectively promotes quality salmon recovery projects...”²⁵

Science-based grants are more likely to create sustainable recovery than politically targeted funding.

The Legislature should reduce the impact of policies designed to undermine science-based prioritization, like the HEAL Act. With so little progress in salmon recovery, lawmakers should be reducing the influence of politics on environmental policy, not increasing it.

3. Put local organizations at the center of the process

Even with a sound scientific basis for prioritizing salmon recovery, there are still gaps in our knowledge. Local knowledge, traditional knowledge and accountability can help fill those gaps.

Local salmon recovery organizations and tribes face accountability for results that are more meaningful than those of politicians or agency staff in Olympia. A project that fails to yield returns will receive scrutiny from local oversight, especially if local governing boards control staff budgets. Local staff also have incentives to learn from their mistakes, since repeated mistakes are more likely to put their judgment at risk.

Experts on the ground may also understand the dynamics of a watershed in ways that, while not scientifically tested, are valuable and important.

Lawmakers should also reduce the permitting and funding barriers that local salmon-recovery organizations now face.

4. Increase funding for salmon recovery

Improving salmon recovery results will require more funding from the state. Washington's revenue has ballooned in recent years and there is plenty of public money to devote to salmon recovery. Rather than increasing funding for salmon proportionate to revenue and the threat faced by salmon, funding has stagnated as a percentage of the budget, with increases in one area (such as removing stream barriers) being offset by cuts elsewhere, such as SRF Board grants.

The governor and Legislature should significantly increase spending on salmon recovery, making it a priority rather than just a media talking point.

Policy Recommendation:

4. IMPROVE FOREST STEWARDSHIP TO REDUCE WILDFIRES AND CAPTURE CO₂

Across the West, catastrophic wildfire has increased significantly over the last two decades, making smoky skies more common in Washington state. According to the U.S. Forest Service and the EPA, Washington saw one of the largest increases in burned acreage since 2002.²⁶

The increase in fire has been seized on by some to claim that climate change is driving the expansion, arguing that reducing CO₂ emissions is key to addressing the problem. Research shows that this idea is wrong, pointing instead to unhealthy forests as the primary cause. The research shows that forest health treatments are the only solution that can reduce catastrophic fires for the next century.

Poor forest health is the primary driver of catastrophic wildfire

A study from researchers at the U.S. Forest Service and the University of Montana found that only 14% of catastrophic wildfires across the West can be attributed to temperature increases from climate change.²⁷ When looking at “the drivers of high-severity fire for forested ecoregions in the western U.S.,” researchers found that climate was a small factor in the increase in catastrophic wildfire.

The simple answer is that unhealthy forests are driving catastrophic wildfires. As the Washington State Department of Natural Resources (DNR) notes:

“We have a forest health crisis in our state. And because of our forest health crisis, we are seeing more catastrophic wildfires.”²⁸

The Forest Service study backs this up. The researchers noted that “live fuel, on average, was the most important factor driving high-severity fire,” accounting for more than half of the catastrophic fires across the West.

Dense, unhealthy forests – with too many trees competing for too little water, light, and nutrients – are more fire-prone.

One news story on the risk of unhealthy forests correctly notes that:

“In a traditional ponderosa-pine forest, fire meanders along the ground. In a crowded forest, fire jumps to the tops of trees and spreads with the wind, faster than firefighters can control it.”²⁹

Trees that are stressed from lack of nutrients also have a difficult time fighting off pest infestations. Bugs can kill large swaths of forest, leaving dead trees as tinder for the next lightning strike. In the severe 2020 fire season, the fuel in one fire was described as “large expanses of beetle kill timber, 80-90 percent of the stand.” In that condition, forests are at serious risk of fire with or without global temperature increases.

Improving the health of forests is the only way to reduce fire risk

Lawmakers should return forests to a more natural state using a combination of harvesting, thinning, and controlled burns.

Agriculture Secretary Tom Vilsack released a 10-year strategy to reduce the risk of catastrophic wildfire, highlighting:

“...the need to significantly increase fuels and forest health treatments to address the escalating crisis of wildfire danger that threatens millions of acres and numerous communities across the United States.”³⁰

This is also the approach being taken by the Colville Confederated Tribes to improve the health of their forests.

Returning forests to a more natural, healthy state presents a challenge. Meaningful progress in treating unhealthy, fire-prone forests has been difficult because harvesting and thinning often cost more than the harvest yields, even when some timber revenue is generated. Without a source of funding, there will be very little progress toward reducing the risk of recurring catastrophic wildfires the region has witnessed in recent years.

The cost of meeting the goals of the Washington state Department of Natural Resources’ 20-year Forest Health Strategic Plan is likely to be hundreds of millions, or billions, of dollars over the course of the plan.

Funding for forest health

There are many ways to find this revenue. A federal program called “Good Neighbor Authority” allows DNR to harvest unhealthy federal forests and use the revenue to fund ongoing treatments.

Timber harvests that generate revenue can help fund nearby forest health improvements. Cody Desautel, Executive Director of the Colville Confederated Tribes notes:

“When you do these types of forest management treatments and you produce forest products that generate revenue, that revenue helps support other management objectives. If that funding isn’t available – if you’re just doing fuels treatments or forest treatments and you have no value to the log – there’s no other funding source to offset that. You’re really minimized in your treatment effectiveness by the amount of money you have available.”³¹

Fixating on climate policy distracts from the real driver of catastrophic wildfires and makes it difficult to find the resources to address the problem. Even if the world meets the targets of the Paris Climate Accord and becomes net-zero by 2050 (which is extremely unlikely), global temperatures will still be higher in 2100 than they are today.³²

Active forestry is more effective at storing CO2

Some have argued that stopping timber harvests on state land would allow forests to capture atmospheric CO2 and store it. This claim is contradicted by science and real-world experience.

Sustainable timber harvests and replanting are the most effective ways to capture and store CO2.

For example, the U.S. Forest Service’s Pacific NW Research Station noted:

“Sustainably managed forests can provide greater greenhouse gas mitigation benefits than unmanaged forests while delivering numerous environmental and social benefits.”³³

The U.N. Intergovernmental Panel on Climate Change agrees noting, “Sustainably sourced agriculture and forest products, including long-lived wood products, can be used instead of more GHG-intensive products” to reduce global CO2 emissions.³⁴

Real-world data confirms this. California's assessment of forests in the state found working forests significantly increase storage of carbon, but "reserve" forests are net carbon emitters, with high levels of mortality from fire, insects, and disease.³⁵

Research from the University of Washington shows that trees in Western Washington absorb and store carbon most rapidly when they are between 30 and 80 years of age.³⁶ At that point, the total carbon stored in a forest generally flattens out. After that, researchers noted:

"Large trees may continue to grow larger by crowding out adjacent trees but eventually, due to natural aging and disturbances such as windstorms, fire, and disease, the unmanaged forest is likely to emit carbon rather than store more carbon" as trees burn, die or rot.³⁷

Stopping timber harvests is also unlikely to increase global CO₂ storage because of the substitution effect. If global demand for construction materials stays the same, a reduction in timber harvest in Washington state would likely cause increased harvest elsewhere or cause builders to replace wood with more energy-intensive building materials like concrete and steel.

Stopping harvests in Washington would be the worst of both worlds by leaving the state with forests that are more fire-prone without reducing global atmospheric CO₂.

Conclusion

The research shows that sustainable, active forestry is best for the economy and the environment. Scientifically managed timber harvests provide a range of benefits to the economy, to school funding from state timber sales, and to the environment. But even if we focus only on climate change and reducing CO₂ emissions, the science is very clear – as many activists themselves acknowledge – that the best strategy to reduce the risk of catastrophic forest fire and climate change, is to support timber harvests in state, federal, and tribal forests and increase the use of timber for construction.

Policy Recommendation:

5. FIXING WASHINGTON'S COSTLY AND INEFFECTIVE CLIMATE POLICY

A decade into the Inslee Administration, Washington's climate policy has switched from wasteful and ineffective to extremely expensive. Through 2019, Washington's CO2 emissions had increased every year during the governor's three four-year terms, despite his repeated promises that carbon emissions would decline.³⁸ The economic slowdown caused by the COVID lockdowns changed that, but the poor results demonstrate that government policies designed to cut emissions has largely failed.

Washington's state leaders are not the only ones who failed to live up to their promises. Before the COVID lockdowns, elected officials in both King County and Seattle were also badly missing their promised CO2-reduction targets.³⁹

In an effort to change that, Washington state adopted one of the strictest CO2-emission laws in the country. It took effect in January 2023. The Climate Commitment Act (CCA) puts a hard cap on total CO2 emissions the government will allow in the state, while excluding some economic sectors from coverage. Allowances to emit CO2 are sold at a quarterly state auction up to the mandated cap, which sets the price. The inflexibility of the CCA quickly led to very high energy prices, especially the price of gasoline.⁴⁰ The state's own Department of Ecology predicts energy prices will go even higher.⁴¹



Due to the state carbon tax the retail price of gasoline in Washington (upper line) is significantly higher than the U.S. national average price (lower line)

The needlessly restrictive targets and requirements in the CCA mean Washington residents will likely continue to pay far more to reduce CO2 than consumers in California and other jurisdictions with similar climate policies. Washington leaders are not only harming their own residents and economy. They are wasting opportunities to more effectively and rapidly reduce CO2 emissions.

State climate policy is wasteful and expensive

State and local climate policy has focused on imposing government programs and mandates, spending hundreds of millions of dollars to subsidize projects officials claimed would reduce CO2 emissions. Those projects have consistently failed to live up to the promises made by politicians.

The response has been to add more funding and requirements for government planning. For example, the Legislature passed a requirement that cities include climate change as a factor in their growth management plans. The Legislature provided about \$41 million to meet that new requirement.⁴² Tens of millions of dollars more are being spent to help agencies with permitting. As the state's consistent failure to meet CO2-reduction goals demonstrates, the success rate of these types of programs is extremely poor.

Worse, now that the state has imposed an arbitrary cap on statewide CO2 emissions, these projects are unlikely to add anything to total emissions reductions. While cap-and-trade systems like the CCA have many problems, one advantage is that they are intended to replace the patchwork of ad hoc subsidies and regulations with a single system that puts a cap and a price on emissions.

Instead, the Inslee Administration and the Legislature have kept the wasteful regulations and spending in addition to the CO2 cap. This makes little sense because any reductions achieved by government programs count against the cap. Because the cap doesn't change, Washington's total statewide emissions are likely to be the same even without any government spending on CO2-reducing projects.

The same is true of growth management and other regulations, like banning natural gas heating in new homes. Natural gas is covered by the CCA. Assuming the existing strict cap targets remain in place, homes would have to switch to electricity over the next three decades with or

without the state's new regulations. The claim is that government programs and regulations will help ease that transition, but again, given the history, that claim is based more on faith than experience.

Fixing our broken climate policy – repeal the CCA

Fundamentally, the CCA is needlessly complex and political. The best approach would be to repeal the law and replace it with a simple price on CO₂ emissions, repeal the many wasteful subsidies and climate regulations, and cut taxes with the savings and revenue from the CO₂ price. That is unlikely because state elected officials and agency staff want the billions of dollars in tax increases they are getting from the CCA.

Short of full repeal, there are policy changes that can be made to reduce the economic damage being done by the CCA and make it more effective at reducing CO₂ emissions.

First, lawmakers should require that any CO₂-reduction project funded by taxpayers meet the same standards of effectiveness required of private efforts. Currently, there are no requirements that projects funded by the state actually reduce CO₂, or that they maximize environmental benefits.

Numerous CO₂-reduction projects funded by state and local governments have failed badly and there is virtually no accountability for those failures. The state routinely misses or ignores its own requirements to reduce CO₂, including the governor's own executive orders regarding state purchases of electric vehicles.⁴³ In contrast, companies in the private sector are not allowed to act in such a slipshod and incompetent manner.

Second, the cap on private CO₂-reduction projects should be removed. Currently, to comply with CCA, emitters can only use a small number of private CO₂-reduction projects. That cap should be eliminated. The targets are arbitrary and limit opportunities for environmental innovation. The state should allow all third-party certified projects that demonstrate CO₂ reductions that are real, permanent, quantifiable, verifiable, enforceable, and additional. These strict requirements should also be applied to any government-funded CO₂-reduction project.

Also, the state should eliminate the requirement that offsets provide "Direct Environmental Benefits" to the state. Washington will receive billions of dollars in new tax revenue from the CCA, which should be used

to address environmental concerns rather than requiring offset projects to meet multiple, potentially contradictory, goals.

End the state's arbitrary cap on emissions

The state should eliminate, or at least adjust, the state's arbitrary cap on CO2 emissions. The requirement that the state reduce emissions by 50 percent by 2030 is not based on science. The target is entirely political based on the fact that the target and deadline are both divisible by ten. While not based on science, the aggressive and arbitrary cap is still the main driver of the very high cost of compliance.

Repeal the low-carbon fuel standard

Lawmakers should repeal the state's low-carbon fuel standard. As the Department of Ecology officials admit, the LCFS adds nothing to the total CO2 reduction in the state. The only purpose it serves is to increase the cost of achieving the exact same level of emissions reductions. The LCFS mandate represents pure waste.

Finally, to cut prices immediately, the state could cap the price of CO2 allowances at the California/Quebec price. In 2023, Washington's price for CO2 allowances was nearly double the price in California's CO2 market. Washington residents paid much more to achieve the same level of CO2 reduction.

Governor Inslee and officials at the Department of Ecology have said repeatedly that they want to join the California/Quebec CO2 market to cut prices. They could take a step in that direction by aligning our prices with them now.

Conclusion

The refrain often heard from advocates of the CCA is that the law is necessary to reduce the supposed risks of climate change. If advocates truly believed that, they would require government programs to prove they are effective and maximize CO2 reductions. They would also encourage technical innovation by allowing the private sector to create new approaches to reducing emissions, with no state-imposed arbitrary limits.

Instead, the current system prioritizes government bureaucracy, corporate subsidies and payouts to special interest groups. Without repeal or a serious overhaul of the CCA, Washington residents will continue to pay extremely high prices for tiny environmental benefits.

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